Processing Vegetable Crops in New York
Snap Bean Insect Pests

Seedcorn Maggot
(*Delia platura*)

Potato Leafhopper
(*Empoasca fabae*)

European corn borer
(*Ostrinia nubilalis*)
Seedcorn Maggot

- Overwinters as puparium in soil
- Adults emerge in April and early May
- Eggs laid on decaying organic material as well as recently planted crops
- Three generations; first generation is typically the most problematic

Adult
Risk Period for Seedcorn Maggot in Snaps

Days after planting

0 10 20 30 40 50 60

planting

harvest

Crop

bean crop

flower

pin to pod
Conventional Seedcorn Maggot Management

Days after planting

- **planting**
- **harvest**

Crop

- Conventional

**Cruiser® 5FS**
- Seed treatment

Timeline:
- **bean crop**
- **flower**
- **pin to pod**

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Seedcorn Maggot Management using a Seed Treatment
Potato Leafhopper

- Overwinters in southern US
- Migrates to NY in spring in late April to early May
- Typically will infest alfalfa first
- Subsequent generations move from alfalfa after cutting into snap bean
Potato Leafhopper Damage to Snap Bean

Stunting, leaf curling and “hopperburn”
Risk Period for Potato Leafhopper in Snaps
Conventional Potato Leafhopper Management

Days after planting

- planting
- harvest

Crop

Conventional

Cruiser® 5FS
seed treatment

bean crop

flower
pin to pod
Potato Leafhopper Management using a Seed Treatment

Untreated
Conventional Management Program for SCM and PLH

* Since 2004, nearly all processing snap bean fields in the Midwest and North-Eastern US have been planted with Cruiser-treated seed.

* In NY, adoption of Cruiser has reduced the use of insecticide active ingredient up to 14,000 to 30,000 lbs/year!
Conventional Pest Management Program

Days after planting

- planting
- harvest

Crop
- Conventional
- Cruiser® 5FS seed treatment

Stages:
- flower
- pin to pod

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Neonicotinoid Insecticides

• Risk of harming non-target organisms, bees?
European Corn Borer

- Overwinters as 5th instar in stems/stalks
- Adults emerge in May and June
- Over 100 hosts, but prefers corn
- Bivoltine E-race, bivoltine and univoltine Z-races
European Corn Damage
European Corn Borer Contamination
Risk Period for European Corn Borer in Snaps
Conventional ECB Management Program

- planting
- harvest

- Conventional
- Crop

- Days after planting

- bean crop
- flower
- pin to pod

- Brigade® 2EC
  Foliar pyrethroid
Conventional ECB Management Program

Pros
- Effective
- No resistance
- Cheap

Cons
- Kills non-targets
- EPA hit list

(2 pyrethroid + fungicide applications)

Brigade® 2EC
Insecticide/Miticide

TOPSIN® M WSB

flower

pin to pod

(bean crop)

Days after planting

0 10 20 30 40 50 60
Do alternatives to broad-spectrum insecticides exist?

(2 pyrethroid + fungicide applications)

Conventional

Crop

Days after planting

0 10 20 30 40 50 60

bean crop

flower

pin to pod

Brigade® 2EC Insecticide/Miticide

TOPSIN® M WSB

Bravo®
Alternative ECB Management Program

➢ Only one application is needed
➢ Much less toxic to bees than neonics or pyrethroids
➢ Unfortunately, it is very expensive (~8x)

YES!